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EXAMINER
SEKUL, MARIA LYNN

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/587,462	ATKINS ET AL.
	Examiner	**Art Unit**	
	MARIA L. SEKUL	2461	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 July 2009</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-97</u> is/are pending in the application.

    4a) Of the above claim(s) <u>1-53 and 56,58, 59, 65-67,76-97</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) <u>54,55,57,60-64 and 68-75</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>23 July 2009</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Status of Claims

Claims 54, 55, 57, 60-64 and 68-75 are currently pending in the instant

application. **Claims 1-53, 56, 58, 59, 65-67 and 76-97** have been cancelled.

Response to Arguments

1.   Applicant's arguments, see Applicant's Remarks, filed July 23, 2009, with respect

to the rejection of **claim 68,** and **claims 69-72** which depend therefrom, under 35

U.S.C. §102(e) as being anticipated by U.S. Publication No. 2003/0187977 to Cranor, et

al. ("Cranor") have been fully considered and are persuasive. Therefore, the rejection

has been withdrawn. However, upon further consideration, a new ground(s) of rejection

is made in view of U.S. Patent No. 7,016,951 to Longworth, et al. ("Longworth").

2.   Applicant's arguments with respect to **claim 73,** and **claims 74 and 75** which

depend from claim 73, and to **claim 54,** and **claims 55, 57 and 60-63** which depend

from claim 54, and to **claim 64,** have been considered but are moot in view of the new

ground(s) of rejection.

Specification

3.   The disclosure is objected to because of the following informalities: in the list of

drawings on page 13, Para [0055] of the new Specification, "Figure 17a and 17c" should

read "Figure 17a *to* 17c" to include Figure 17b.

        Appropriate correction is required.

Claim Objections

1.   **Claims 57, 60 and 62** are objected to because of the following informalities as

noted below.

As to **claim 57**, the claim recites that it depends from "the method as claimed in

claim 56". Claim 56 has been cancelled. For purposes of examination, this claim has

been interpreted to depend from claim 54. Appropriate correction is required by either

amending the claim to depend from claim 54 or deleting the claim.

As to **claim 60**, the claim recites that it depends from "the method as claimed in

claim 58". Claim 58 has been cancelled. For purposes of examination, this claim has

been interpreted to depend from claim 54. Appropriate correction is required by either

amending the claim to depend from claim 54 or deleting the claim.

As to **claim 62, line 5-6**, the claim recites "said one or more of said intermediate

statistics" which appears to mean "said one or more intermediate statistics". If this is

the case, please replace "said one or more of said intermediate statistics" with - - said

one or more intermediate statistics - - .

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   **Claims 68-73** are rejected under 35 U.S.C. 102(b) as being anticipated by

Longworth et al. (US Patent No. 7,016,951) (hereinafter Longworth).

As to **claim 68**, Longworth discloses:

"inputting network data captured from a digital mobile phone network" (a realtime

network data stream 144 is sensed and collected, and the observation port transmits a

copy of the network data stream to interpreter module 108, **Fig. 1, col. 3, lines 29-35**;

the network may be or include a GPRS, GSM, CDMA or TDMA link such as a cellular

phone channel ("digital mobile phone network"), **col. 2, lines 61-67**);

"said network data comprising data for a plurality of communications sessions

over said network, said network data including a plurality of session related parameters"

(the network data is captured and reassembled back into network sessions according to

parameters" (assembler module 112 consolidates the arriving data packets 110 into

complete session files TCP control protocol (TCP) sessions, **Fig. 1-2, col. 3, lines 52-**

59; assembler module 112 transmits sessions 140 to parser module which uses

application sensor 126 to analyze the information contained in and characterizing the

session140; the information may include source and destination addresses and ports,

sequence numbers and other parameters, **Fig. 5; col. 4, lines 26-52**);

"dividing said captured network data into a plurality of data structures, one for

each said communications session (once application type of session 140 has been

determined, parser module 120 may store part or all of a complete session to content

database 182, **Fig. 1; col. 6, lines 30-34**);

"processing said divided data in accordance with one or more queries to

generate statistical data for each of a plurality of said sessions, said query defining at

least one statistic relating to one or more said parameters" (parsed session information

("divided data") is stored in the session database 122; the summary database 132 is generated by executing scripts or other query mechanisms against the session database, **Figs. 2, 5 col. 7, lines 60-67**; the inquiry includes query parameters that are analyzed by the presentation server 134); and

"storing, in a data store, said statistical data for each of said sessions in association with a session identifier" (the summary database 132 is generated by executing scripts or queries against the session database ("statistical data"), **col. 7, lines 60-67**; results of interrogations on the session database are stored in summary database, **col. 7, line 20-26**; therefore, it is anticipated the results of an inquiry on a session in the session database will be stored in the summary database with a session identifier to be able to identify the of the target of the inquiry, or in other words, a query parameter);

"whereby network data for a session used to generate said statistical data is retrievable" (presentation interface 138 allows a systems administrator to invoke different inquiries into the past behavior of network 142; inquiries may include an investigation of Websites most frequently visited by users of the network, users exhibiting the highest rate of e-mail traffic, etc. ("statistical data") **col. 7, lines 11-19**; Applicant's Substitute Specification, ¶ 60, describes the ability to "drill down into individual data sessions" to determine which particular websites or sites are being accessed. Longworth explicitly discloses this element as described immediately above).

As to **claim 69**, Longworth discloses all of claim 68.

Longworth further discloses "statistical data comprises statistical data

aggregatable to provide said at least one statistic for a combination of two or more said

sessions" (presentation interface allows a system administrator to invoke different

inquiries into the past behavior of the network, including an investigation of Websites

most frequently visited and other user characteristics; **col. 7, lines 11-19**, and the

characterization module may store high-level digested data indicating overall behavior

of the network, **col. 7, lines 27-31**; the inquiries are made on the data from the

summary database which was built from the session database; **col. 7, lines 20-26**; and

therefore it is anticipated the results of these queries ("statistical data") are based on

more than one session as they indicate overall behavior of the network).

As to **claim 70**, Longworth discloses all of claim 68.

Longworth further discloses "operating on each said data structure to generate

said statistical data" (execution of scripts through an OLAP or other relational database,

e.g. SQL, generates the summary database from searches on the session database,

col. 7, lines 7-10, 62-66).

As to **claim 71**, Longworth discloses all of claim 68.

Longworth further discloses "storing indexed by one or more of said parameters"

(once a type of session 140 has been determined, parser module 120 may store part or

all of a complete session to content database 182 after assignation of a unique storage

address; parser module also processes the protocol for a given session and generates

the minimum subset of information needed to identify the nature of the session for

recording on session database, **Fig. 1; col. 6, lines 30-48**; then the user inputs the

query, the presentation server analyzes the query parameters and communicates with

the summary database, **col. 8, lines 1-9**; it is anticipated that the query parameters are

in a the format compatible with accessing stored session data in session database).

As to **claim 72**, Longworth discloses all of claim 68.

Longworth further discloses "processing is performed in parallel for said plurality

of data structures"(system may be configured so that interpreter module 108 could

accept samples of the network data stream from multiple ports ("in parallel"), **col. 8,**

lines 10-16).

As to **claim 73**, Longworth discloses:

"means for inputting network data captured from a digital mobile phone network

(a realtime network data stream 144 is sensed and collected, and the observation port

transmits a copy of the network data stream to interpreter module 108, **Fig. 1, col. 3,**

lines 29-35; the network may be or include a GPRS, GSM, CDMA or TDMA link such

as a cellular phone channel ("digital mobile phone network"), **col. 2, lines 61-67**),

"said network data comprising data for a plurality of communications sessions

over said network, said network data including a plurality of session related parameters"

(the network data is captured and reassembled back into network sessions according to

parameters (assembler module 112 consolidates the arriving data packets 110 into

complete session files TCP control protocol (TCP) sessions, **Fig. 1-2, col. 3, lines 52-**

59; assembler module 112 transmits sessions 140 to parser module which uses

application sensor 126 to analyze the information contained in and characterizing the

session140; the information may include source and destination addresses and ports,

sequence numbers and other parameters, **Fig. 5; col. 4, lines 26-52**);

"means for dividing said captured network data into a plurality of data structures,

one for each said communications session" (once application type of session 140 has

been determined, parser module 120 may store part or all of a complete session to

content database 182, **Fig. 1; col. 6, lines 30-34**);

"means for processing said divided data in accordance with one or more queries

to generate statistical data for each of a plurality of said sessions, a said query defining

at least one statistic relating to one or more of said parameters" (parsed session

information ("divided data") is stored in the session database 122; the summary

database 132 is generated by executing scripts or other query mechanisms against the

session database, **Figs. 2, 5 col. 7, lines 60-67**; the inquiry includes query parameters

that are analyzed by the presentation server 134); and

"means for storing, in a data store, said statistical data for each of said sessions

in association with a session identifier; whereby network data for a session used to

generate said statistical data is retrievable" (the summary database 132 is generated by

executing scripts or queries against the session database ("statistical data"), **col. 7,**

lines 60-67; results of interrogations on the session database are stored in summary

database, **col. 7, line 20-26**; therefore, it is anticipated the results of an inquiry on a

session in the session database will be stored in the summary database with a session

identifier to be able to identify the of the target of the inquiry, or in other words, a query

parameter).

means for storing an identifier of said plurality of data structures (the summary

database 132 is generated by executing scripts or queries against the session database

("statistical data"), **col. 7, lines 60-67**; results of interrogations on the session database

are stored in summary database, **col. 7, line 20-26**; therefore, it is anticipated the

results of an inquiry on a session in the session database will be stored in the summary

database with a session identifier to be able to identify the of the target of the inquiry, or

in other words, a query parameter),

whereby network data for a session used to generate said statistical data is

retrievable with said data structures being accessible one at a time (once a type of

session 140 has been determined, parser module 120 may store part or all of a

complete session to content database 182 after assignation of a unique storage

address ("storing an identifier"); parser module also processes the protocol for a given

session and generates the minimum subset of information needed to identify the nature

of the session for recording on session database, **Fig. 1; col. 6, lines 30-48**, and

further, the **Abstract** describes that the parser module extracts only the minimum

information needed to reconstruct individual sessions which indicates how the stored

sessions are intended to be used and accessed ("data structures being accessible one

at a time");

when statistical analysis indicates when session should be examined

(presentation interface allows system administrator to invoke different inquiries into the

past behavior of the network, including investigation of information recorded in the

resulting databases, i.e. the summary and session databases; the variety of forensic

inquiries that may be formulated is a function of the complete nature of the surveillance

performed and the storage of the results of those interrogations in summary database

("statistical analysis") (**col. 7, lines 11-19**)

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

5.   **Claims 54, 55, 57, 60-64, 74 and 75** are rejected under 35 U.S.C. 103(a) as

being unpatentable over **Cranor et al. (US PGPub 2003/0187977)** (hereinafter Cranor)

in view of **Longworth et al. (US Patent No. 7,016,051)** (hereinafter Longworth).

As to **claims 54 and 64**, Cranor discloses a method of:

"inputting network data captured from a digital mobile phone network" (data

arriving in the network is placed in a buffer, **Fig. 7, ¶ 62, lines 3-5**);

"inputting query data for one or more queries, a query defining a statistic relating

to one or more of said parameters, to be computed from said network data" (network

monitor allowing network application-level queries to collect statistics, ¶ **14, 38-40, Fig. 2**);

"formatting a said query to define said statistic in terms of one or more intermediate statistics relating to said one or more parameters and to be computed from said network data, said statistic being computable from said one or more intermediate statistics" (an filtering, transformation, and aggregation (FTA) ("query") process may depend on the output of another FTA for input ("intermediate statistics"), ¶ **36**; additionally, queries for monitoring tasks involving collection of aggregate statistics of the packet by combining several other intermediate statistics and aggregating them, ¶ **36 40**);

"operating, after said organizing, with said formatted query on said captured network data to determine said one or more intermediate statistics" (an application subscribes to an FTA process to receive statistics collected on the data, ¶ **30-36**); and

"storing one or more sets of said one or more intermediate statistics in a data store for analysis" (a clearinghouse database stores output from FTAs (queries) which may be used as input to other FTAs ("intermediate statistics, ¶ **33-36**).

Cranor does not explicitly disclose the captured network data comprises "a plurality of communications sessions over said network, said network data including a plurality of session related parameters".

Longworth teaches the network data is captured and reassembled back into network sessions according to parameters (assembler module 112 consolidates the arriving data packets 110 into complete session files TCP control protocol (TCP)

sessions, **Fig. 1-2, col. 3, lines 52-59**; assembler module 112 transmits sessions 140 to

parser module which uses application sensor 126 to analyze the information contained

in and characterizing the session140; the information may include source and

destination addresses and ports, sequence numbers and other parameters, **Fig. 5; col.

4, lines 26-52**).

Further Cranor does not explicitly disclose:

"organizing said captured network data by communication session by dividing

said captured network data into a plurality of data structures, one for each said

communication session"; and

"storing an identifier of said plurality of data structures whereby said data

structures are accessible one at a time when statistical analysis indicates which session

should be examined".

Longworth teaches organizing such that once application type of session 140 has

been determined, parser module 120 may store part or all of a complete session ("one

for each communication session") to content database 182 (**Fig. 1; col. 6, lines 30-34**);

and parsed session information ("divided data") is stored in the session database 122.

Longworth further discloses that a minimum subset of information needed to identify the

session is extracted removing unnecessary data (**col. 6, lines 35-40**). In the case that

not all of the session data is retained, for instance, due to storage constraints as noted

in **col. 6, line 49-55**, a subset of the data will be stored in order to perform more fully

featured post hoc traffic analysis, From the information stored, inquiries may include an

investigation of Websites most frequently visited by users of the network, users

exhibiting the highest rate of e-mail traffic, etc. (**col. 7, lines 11-19**). Applicant's

Substitute Specification (¶ 60) describes the ability to "drill down into individual data

sessions" to determine which particular websites or sites are being accessed.

Therefore, Longworth discloses access to the raw data for each session.

Longworth further teaches storing such that the summary database 132 is

generated by executing scripts or queries against the session database ("statistical

data") (**col. 7, lines 60-67**). Results of interrogations on the session database are

stored in summary database (**col. 7, line 20-26**); and therefore, it is anticipated the

results of an inquiry on a session in the session database will be stored in the summary

database with a session identifier to be able to identify the of the target of the inquiry, or

in other words, a query parameter.

Longworth and Cranor are analogous art in that they both pertain to capturing

and analyzing network data. It would have been obvious to one skilled in the art at the

time the invention was made to capture and store network data relating to

communication sessions as taught in Longworth with the network monitoring method in

Cranor being that it allows statistics to be gathered for separate communication

sessions, and is not constrained to detecting limited types of data, which is a problem

noted in the Abstract of Longworth.

As to **claim 55**, Cranor in view of Longworth disclose all of claim 54.

Cantor further discloses "storing comprises storing said one or more intermediate

statistics relating to said one or more parameters indexed by said one or more

parameters" (a clearinghouse database stores output from FTAs (queries) which may

be used as input to other FTAs ("intermediate statistics, ¶ **33-36**).

As to **claim 57**, Cranor in view of Longworth discloses all of claim 54.

Longworth further discloses "storing comprises storing said intermediate statistics

indexed by an identifier of a said communications session" ((the reconstructed network

sessions are stored and the backend interface can analyze the data for other purposes

("intermediate statistics"), *see* **Fig.1, Abstract**; reconstructed network sessions are

assembled according to parameters, such as, protocol type, source and destination

addresses or ports, sequence number and other variables, all of which could be an

identifier of the session, *see* **Abstract**; additionally, once type of session is determined,

the session is stored in the database and assigned a unique storage address, **col. 6,**

lines 30-34).

As to **claim 60**, Cranor in view of Longworth discloses all of claim 54.

Cranor further discloses "providing captured network data for a communications

session to a data pipe configured to store a time-ordered series of sets of entries, one

for each of said one or more parameters, and reading parameters at a time position on

said data pipe for a said formatted query" low-level FTAs are performed as the data

comes in and results are fed to higher level FTAs (¶ **15-17**) and includes aggregating

statistics based for time intervals (¶ **40**);

As to **claim 61**, Cranor in view of Longworth discloses all of claim 54.

Cranor further discloses "a database, the method further comprising determining

a configuration for said database using said inputted query data" (the FTA (query)

processes are started which create data schema that is registered with the

clearinghouse database to create the database, ¶ **32-36**).

As to **claim 62**, Cranor in view of Longworth discloses all of claim 54.

Cranor further discloses "inputting selection data defining selected ones of said

one or more parameters" (low level and high-level FTAs (queries) are performed; ¶ **15-**

17); and

"reading said one or more intermediate statistics for said related parameters; and

determining at least one said statistic for said related parameters from said intermediate

statistics" (low-level FTAs (queries) can be used as input to a high-level FTA (query),

(**Fig. 7, ¶ 17, 62**) .

As to **claim 63**, Cranor in view of Longworth discloses all of claim 62.

Longworth further discloses "selection data comprises marketing or customer

service report data" (on the backend, a system administrator may make queries using a

presentation interface regarding user activity, including, frequently visited websites,

analysis of different network addresses and their most frequent communicants, **col. 7,**

lines 11-19).

As to **claim 74**, Longworth discloses all of claim 73 but does not explicitly teach

the further limitations of claim 74.

Cantor teaches "means for inputting query data defining said one or more

queries" (network monitor allowing network application-level queries to collect statistics,

¶ **14, 38-40, Fig. 2**);

"means for formatting a said query to define a said statistic in terms of one or

more intermediate statistics relating to said one or more parameters and to be

computed from said network data, said statistic being computable from one or more

sets of said one or more intermediate statistics" (an filtering, transformation, and

aggregation (FTA) ("query") process may depend on the output of another FTA for input

("intermediate statistics"), ¶ **36**; additionally, queries for monitoring tasks involving

collection of aggregate statistics of the packet by combining several other intermediate

statistics and aggregating them, ¶ **36, 40)**;

"means for operating with said formatted query on said captured network data to

determine said one or more intermediate statistics" (network monitor allowing network

application-level queries to collect statistics, ¶ **14, 38-40, Fig. 2**); and

"means for storing said intermediate statistics in said data store for analysis" (a

clearinghouse database stores output from FTAs (queries) which may be used as input

to other FTAs ("intermediate statistics"), ¶ **33-36**).

Longworth and Cranor are analogous art in that they both pertain to capturing

and analyzing network data. It would have been obvious to one skilled in the art at the

time the invention was made to capture network data relating to communication

sessions as taught in Longworth with the network monitoring method in Cranor being

that it allows statistics to be gathered for separate communication sessions, and is not

constrained to detecting limited types of data, as indicated in the abstract of Longworth.

As to **claim 75**, Longworth discloses all of claim 73.

Longworth does not explicitly teach "a plurality of processors, each said data structure having an associated processor to perform said processing and to send said statistical data for a session over a network to said data store".

Cranor discloses multiple FTAs processed separately on tuples (data structures) and the data is stored in the clearinghouse database, **Fig. 1, ¶ 27, 30-36**).

As previously discussed, Cranor and Longworth are analogous art. It would have been obvious to one skilled in the art at the time the invention was made to combine the processor structure in Cranor with the system in Longworth being that it allows higher throughput of the data monitoring and query processing.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA L. SEKUL whose telephone number is (571)270-7636. The examiner can normally be reached on Monday - Friday 9:00-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MARIA L. SEKUL
Examiner
Art Unit 2461

/M. L. S./
Examiner, Art Unit 2461
        /Huy D Vu/
        Supervisory Patent Examiner, Art Unit 2461